

# **AGS MAINTENANCE, MODIFICATIONS, AND REPAIRS SCHEDULE**

R. Zaharatos - November 18, 1999

## **SCHEDULE SUMMARY**

Maintenance Period - Begin: November 19, 1999 - 0800 hours  
End: December 13, 1999 - 1630 hours

Note: MCR will be unmanned off hours but the support group will remain on shifts

Machine Areas Access:	Booster	Restricted Access
	AGS	Restricted Access
	All SEB	Restricted Access
	ATR/U Line	Restricted Access
	Linac	Restricted Access

**Job Status:**   **C**   - **Complete**  
                  **IP**   - **In-process/on going**  
                  **Can** - **Cancelled**  
                  **RS**   - **Reschedule**  
                  **\***    - **Additions**

## **AGS RING POWERED TESTING REQUESTS**

**C** 1. H10 Ejector  
**RS** 2. Westinghouse powering of main mags.  
**C** 3. J10 Beam Dump positioning  
**C** 4. VHF RF Sys...  
**C** 5. Heat Run

## **PRIMARY JOBS**

### **AGS RING EQUIPMENT**

**C** 1. Install J10 Beam Dump

### **G-2 SET-UP**

### **BOOSTER RING EQUIPMENT**

**C** 1. Vacuum System - repairs of Ion Pump Power Supplies  
**C** 2. Reinsulate F7 Dipole Lower coil to chamber. Install insulation to upper coil Hi-Pot

## **SCHEDULE**

(Detailed schedule will be issued on a daily basis as determined by progression of jobs and work permit requirements. Check TV Monitor or with me)

- 19 Nov. 0800 Maintenance period begins: (the following must be completed prior to the start of any jobs as required).
1. All equipment has been secured and Restricted Access LOTO is in place for Restricted Access to AGS, Booster, SEB, and other areas as required.
  2. HP survey of the AGS areas to be accessed with specific job surveys.
  3. Work plan approvals and detailed coordination of jobs.

**For the detailed schedule and continuation of this schedule see daily postings.**

# AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

## JOBS SCHEDULING REQUEST

**GROUP: Accelerator Controls – B. Venegas (ext. 2421, BP 0349), W. Buxton (ext. 4053)**

For Maintenance Period December, 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
IP 1	Talcove	56 hrs.	MP6 control system installation (PP,WB) AGS		None
C 2	J18	96 hrs.	J10 Dump Controls (WJ,VW) AGS		None
C 3	930A	120 hrs.	Booster Quad Trim upgrade (JC,NS,VW)		None
C 4	930A,L18A,914,911,Dibbuk,929	200 hrs.	Apollo Station replacement AGS		None
C 5	911A	40 hrs.	Build and test prototype 4 axis motor transition PWA (AW,WB) RHIC		None
IP 6	RHIC Service Bldg. & Alcoves	320 hrs.	Remove, Modify, Reinstall 6u VME Chassis (EK,JO,WB) RHIC		None
IP 7	RHIC Service Bldgs.	200 hrs.	Install AC-Reset chassis (AW,PS) RHIC		None
C 8	911B	8 hrs.	Computer network upgrade (EK,RK) AGS		None
C 9	Repair f/o in 1002b,R2bbqf2 psbil-qf3-ps	4 hrs.	Repair f/o (WJ,BV) RHIC		None
10	RHIC 9C & 3C Alcoves	32 hrs.	Installation of boards and cables for Spin		None
11	RHIC all B Alcoves	24 hrs.	Installation of Buffered MADC I/O panels (just for sextupoles)		None
12	RHIC all B Alcoves	80 hrs.	Installation of Buffered MADC I/O panels (rest of the panels)		None
IP 13	1004B	40 hrs.	RTDL V191 installation, ECN implementation, system reconfiguration		None
14	1008B	40 hrs.	Crystal Collimator controls		
15	RHIC all B Alcoves	40 hrs.	Install 16 bit Lo Res modules for sextupoles		

# AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

## JOBS SCHEDULING REQUEST

**GROUP: Access Controls – D. Meany (ext. 5329), BP 0361), A. McGeary (ext. 2053, BP 0554)**

For Maintenance Period December, 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>	
C 1	Linac tunnel	24 hrs.	Opm testing of Linac	DONE	Linac personnel	AD 99-004
C 2	923 Pit		Recalibrate all AGS, RHIC Chipmunks, and Gassner boxes			
C 3	AGS Ring	24 hrs.	Install electric strike, for north conjunction gate			SS99-205acs
C 4	921 PASS cabinet	16 hrs.	Ground all unused inputs, and PLC's	DONE		
C 5	V Primary	8 hrs.	Install start of sweep button at V Target gate		H/P tech.	SS99-204acs
IP 6		?	Assist as necessary with PASS updates		RHIC Pass techs.	
C 7	AGS/HEBT GATE	30 min.	Repair AGS/HEBT gate crash switch	DONE	H/P Survey	AD 99-004
C 8	Booster	4 hrs.	Six months recertification testing expires on 10/06/99			
C 9	AGS Ring	8 hrs.	Six months recertification testing expires on 10/14/99			
C 10	SEB Pri ABCD	24 hrs.	Six months recertification testing expires on 10/19/99			
C 11	U up	?	Six months recertification testing expires on 8/22/99			
C 12	U dn	?	Six months recertification testing expires on 8/22/99 possible extension			
C 13	g-2	?	Six months recertification testing expires on 8/22/99			
IP 14	RHIC RING	?	Six months recertification testing expires on 12/01/99			
C 15	J10 beam dump	4 hrs.	Install cabling to beam dump			Yes
C 16	LINAC	2 hrs.	Remove unused circuits from logic	DONE		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Collider Power Supply / Magnet Protection – P. Ribaud (Ext. 4572) [4150],  
G. Ganetis (Ext. 4476) [4146]**

For Maintenance Period December, 1999

<b><u>JOB#</u></b>	<b><u>ACCESS TO</u></b>	<b><u>EST. HRS.</u></b>	<b><u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u></b>	<b><u>ADD'L. SUPPORT</u></b>	<b><u>HP SURVEY</u></b>
<b>IP 1</b>	Service Bldg. 1004B		Main Power Supply Modifications		
<b>IP 2</b>	Service Bldg. 1012A, 1002A, 1004B, 1006B, 1008B, 1010A		Uni-polar Insertion Power Supplies and Quench Protection Assemblies		
<b>IP 3</b>	All Ring Alcoves		50 Amp Corrector Power Supplies		
<b>IP 4</b>	All B Alcoves		Sextupole Power Supplies and Quench Protection Assemblies		
<b>IP 5</b>	Same as Uni-polar		Bi-Polar Power Supplies and Quench Protection Assemblies		
<b>IP 6</b>	Ring Alcoves		Gama T-Jump Power Supplies		
<b>7</b>	All B Alcoves & Service Bldgs.		Quench Detection System		
<b>IP 8</b>	Service Bldgs. 1012A, 1002A, 1004B, 1006B, 1008B, 1010A		DX Magnet Quench Heater System		
<b>IP 9</b>	All Alcoves & Ins. regions 30 Controllers throughout ring		Magnet Warm Up Heater System		

# AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

## JOBS SCHEDULING REQUEST

**GROUP: g-2 Set Up Instrumentation – D. Lehn (ext. 4542) [4276], T. Russo (ext. 7330) [4201]**

For Maintenance Period December, 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
C 1	V Target	6 hrs.	VE324 SEC - Replace Device, Replace cable harness	HP-Survey, EAG	
C 2	V Target	6 hrs.	VE325 SWIC - Replace device, Replace cable harness	HP-Survey, EAG	
C 3	V Target	12 hrs.	VXF1 - Current Transformer - Repair/replace cables as necessary	HP-Survey, EAGS	
C 4	VPGE1	8 hrs.	V Target Camera - Replace camera - Modify mount as necessary - Adjust mirror as necessary - Replace/modify light setup	HP-Survey	
C 5	AGS Ring	12 hrs.	UXF1 - Repair/modify/test as necessary	HP-Survey, Vac. Group	
C 6	AGS Ring	1 hr.	BTA Loss Monitor System - Repair gas lines as needed.	HP-Survey	
C 7	AGS Ring	2 hrs.	UF1 - Setup camera for protons - Rail/Camera/Filters	HP-Survey	
C 8	AGS Ring	???	DCCT's, RC's, etc - Repair/replace as necessary	HP-Survey	
C 9	AGS Ring	2 hrs.	A20 Flying Wire - Setup PMT for High Intensity Protons		
C 10	AGS Ring	1 hr.	F20/G7 PUE Pre-Amps - Swap out Devices for High Intensity.	HP-Survey	
C 11	AGS	40 hrs.	Transverse Dampers - Retube/Test and Setup Amplifiers		
C 12	AGS Complex	32 hrs.	Setup all appropriate Instrumentation for Protons		
C 13	AGS Ring	4 hrs.	BLM System - Repair failed section of Loss Monitors in Ring.	HP-Survey	
14	V1 Line	60 hrs.	Setup and test of all Instrumentation for Protons		
C 15	U-Line-U/S	1 hr.	Checkout of VF232 Camera and bulb replacement	HP-Survey	
IP 16	AGS	???	Vacuum System - Repairs of Ion Pump Power Supplies.	HP-Survey	
C 17	AGS Ring	???	J10 Beam Dump - Support Installation - Datcon controls and Security Hookup	HP-Survey	
C 18	U U/S	2 hrs.	UF2 - Inspect and adjust as necessary - Camera and filters	HP-Survey	
C 19	Booster		Vacuum System - Repairs of Ion Pump Power Supplies. - Repair of B2 Control Valve		
C 20	AGS Ring	4 hrs.	E15 IPM - Repair of leaky CO2 line	HP-Survey	
C 21	AGS Ring	1 hr.	H10 Flag/Video - Check flag and Video	HP-Survey	
C 22	V-Line	16 hrs.	Loss monitors - Install picture frame loss monitors - Install cables for above - Clean up and rearrange loss monitors in U u/s	HP-Survey	
C 23	AGS	12 hrs.	FEB Extraction Studies - checkout of the following devices - CF100 Video and Neutral Density Filters - CD10 SEC -Electronics after install of new SEC - CF011 Camera - CST036 Scintillators - F10 Camera	HP-Survey	
C 24	AGS Ring	12 hrs.	J10 Loss Monitors - Route cables to 911A Terminal Room - Prepare and install Loss Monitors	HP-Survey	

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Maintenance Support: R. Zaharatos (Ext. 7205 [4281], J. Benante (Ext. 4498(1207),  
W. Mackay (Ext. 3076, [4400]**

For Maintenance Period December 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
RS 1	Booster Berm		Regrade Booster Berm over BAF penetration area (add fill)	J. Feldman, D. Beavis - requirements	
RS 2	913 Fan Hses C & D		C - Check for dryness coat both C & D	P.E. A. Raphael	Depost from high rad
C 3	Pwr. Feeder 911-17		Coordinator power shutdown Dec. 3 - 4 schedule support groups as required. See circuit info. sheets.	T. Nehring	
RS 4	913 Fan Hses. A-E		Test condensate alarms	W. Anderson	
C 5	914		Clean-up	Cust., RF Grp, PP	
6	913 AGS Ring		Sweep/mop entire Ring	Cust. P. Baker	
IP 7	RHIC Berm		Review/modify RHIC Berm Sweeps	W. Anderson	
C 8	913		Relamp entire ring	R. Bernier	
C 9	913		Remove old J10 RF Cables from aisle, to end of upper sleeve.		
C 10	RHIC		Install Bldg. safety/usage signs		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: POWER DISTRIBUTION: D. Bastedo (Ext. 2555) [0274], T. Nehring (Ext. 5275) [4246]**

For Maintenance Period (Prior to G-2) December 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
RS 1	Westinghouse	4 hrs.	WO#99-09-08, Install by-pass switch on UPS		
RS 2	Westinghouse	8 hrs.	WO#99-09-10, Change over to new battery charger	Lineman	
C 3	H10 House	4 hrs.	WO#99-11-01, Repair heat trace		
C 4	B-930	4 hrs.	WO#99-11-02, Repair motor for cooling system	Water Grp.	
C 5	B-911	4 hrs.	WO#99-11-15, Additional circuits for security		
C 6	Various	24 hrs.	Plant Engr. Shut down Feeder 911-17		



**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: PULSED POWER: R. Zapasek (Ext. 2189) [4263], A. Zhang (Ext. 5369) [7248]**

For Maintenance Period December 1999

<u>JOB#</u>	<u>ACCESS</u> <u>TO</u>	<u>EST.</u> <u>HRS.</u>	<u>JOB DESCRIPTION AND</u> <u>RESPONSIBLE PERSON</u>	<u>ADD'L.</u> <u>SUPPORT</u>	<u>HP</u> <u>SURVEY</u>
C 1	Booster	8 hrs.	<b>F6 Septum</b> , check system hipot? R. Lockey		
C 2	Booster	4 hrs.	<b>F3 Kicker</b> , check PS intlk wiring, A. Zhang		
C 3	H10 House	1 week	<b>H10 Septum</b> , install new control circuit and test PS System. R. Lockey		
C 4	L18A	.5 hr	<b>L20 Septum</b> , remove choke R. Lockey		
C 5	RHIC	8 hrs.	<b>Injection Kickers</b> , check operation A. Zhang		
IP 6	RHIC	4 wks	<b>Abort Kickers</b> , complete modifications and test system A. Zhang, MI		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: RF: N. Laloudakis (Ext. 7177, 7417 [4261], A. Zaltsman (Ext. 2967[4259]**

For Maintenance Period December 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
AGS					
C 1	AGS Ring		Replace all air filters PA, Blower and Feedback Amps. (10 Each)	No	Yes
C 2	AGS Ring		Retube all feedback amplifiers *	No	Yes
C 3	AGS Ring		Back flush all drive loops. *	Yes Pump Rm	Yes
C 4	AGS Ring		Remove Gap Capacitors from D10 cavity and test *	No	Yes
C 5	AGS Ring		Modify grid monitoring circuit for L10 PA	No	Yes

\* Only if we run G-2

**BOOSTER**

C 1	AGS Ring		Replace all air filters PA and blowers (4 each)	No	Yes
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**VHF**

C 1	F18		Turn System on *	No	No
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\* Only if we run G-2

# AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM

## JOBS SCHEDULING REQUEST

GROUP: Vacuum - S. Gill (Ext. 4627 [4164], M. Mapes (Ext. 2841[4277])

For Maintenance Period December 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
RS 1	"w" Line	6 hrs.	Re-install beam pipe in "w-2" line/leak check/restore hi vac	Confer w/C. Pearson	
C 2	AGS	40 hrs.	Replace F-4, F-5, F-7 & F-13 ion pumps / remove turbo manifold & valve assy and clean / leak check / restore hi vac	HP	Yes
C 3	AGS	8 hrs.	Re-install UXF1 current x-fmr/leak check / restore hi vac	Instrumentation & HP	Yes
C 4	AGS	64 hrs.	Install J-10 Beam Dump	Beam Comp., Survey, HP, Instrumentation	Yes
C 5	g-2 Ring	???	Pump down / leak check / restore hi vac as needed (usually takes 8 - 12 hours once pumpdown starts.		
C 6	HEBT "A"	???	Still working on PD19	Survey, Linac, HP	RWP# 294
RS 7	HEBT 2	4 hrs.	Check out turbo pump / possibly replace	Use EWP99-002s	Use RWP 9900
C 8	A-10, E-18, H10	24 hrs.	Restore hi vac in these houses following power outage Dec. 3 <sup>rd</sup>		
C 9	AGS	1 hr.	Jumper open 002 & 039 sector valves prior to power outage	Use EWP99-002s	Use RWP 9900
C 10	AGS	1 hr.	Remove jumpers at 002 & 039 valves after power back on in houses	Use EWP99-002s	Use RWP 9900
IP 11	RHIC	many	Continue w/installation of bellows (over 100), welding, leak checking, tsp power lead terminations, etc.		
C 12	Maint 11.99		Replace damaged J-10 Vacuum Chamber		

**AGS MAINTENANCE, REPAIR AND MODIFICATION PROGRAM**

**JOBS SCHEDULING REQUEST**

**GROUP: Water Systems: J. deBoer (Ext. 4668 [4250], E. Dale (Ext. 7934 [0124],  
R. Grandinetti (Ext. 7186 [4139]**

For Maintenance Period December 1999

<u>JOB#</u>	<u>ACCESS TO</u>	<u>EST. HRS.</u>	<u>JOB DESCRIPTION AND RESPONSIBLE PERSON</u>	<u>ADD'L. SUPPORT</u>	<u>HP SURVEY</u>
C 1	Bldg. 919	260 mhrs.	g-2 & V-Target system draining and refilling. Replace g-2 pump flanges. Separate g-2 & V-Target systems	EAG & P.E. Plumbers	RWP and CP
C 2	Bldg. 913	540 mhrs.	Install the J-10 Beam Dump cooling lines, and test system. Phase 1 & 2	P.E. Plumbers	RWP and EWP
C 3	Bldg. 913	120 mhrs.	Back flush all RFPA drive loops, and check flows.	None	RWP and CP
C 4	Bldg. 913	24 mhrs.	Rebuild pressure regulating valve for the F-5 magnet.	None	RWP and CP
C 5	Bldg. 913	24 mhrs.	Check problem with the F-5 & F-10 Flow Meter indicators	None	RWP and CP
RS 6	Bldg. L18	24 mhrs.	Installation of cooling lines for the J-10 Beam Dump power supply	None	RWP and CP
C 7	Bldg. 922	8 mhrs.	Replace ENI power supplies for RF Group	RF Group	None
C 8	Bldg. 913	8 mhrs.	Drain portions of C and I sanitary sumps	None	RWP and CP
C 9	Bldg. 913	4 mhrs.	RFPA dummy load replacement on station IJ in AGS Ring.	RF Group	RWP and CP